IMPROVED COMPACT DISC CASE

The present invention is based on United States Provisional Patent Application Serial No. 60/405,529 filed on August 24, 2002, the disclosures of which are incorporated herein by reference.

Field of the Invention

The present invention relates to improved cases for holding CD's and other media. The present invention provides a case that may preferably be cut from a single sheet of a substrate.

Background of the Invention

The compact disc, DVD disc, minidisc and other similar media having a length and width with a relatively thin height compared to the length and width have become ubiquitous. Not only used for playing music, these media are used for storing data, computer programs, video, music and other usually digital information. As used herein for convenience the media will be referred to as a compact disc but it will be appreciated by those skilled in the art that the term includes any media with the same general shape and need not be round or as thin ad a compact disc.

While compact discs are a good storage medium they have drawbacks. Compact discs have two surfaces. The top surface is generally used as a label that

identifies the product contained on the disc or the manufacturer of the compact disc. The other side, the silver, gold or other color side is the data side. One of the primary drawbacks of compact discs is their tendency for the data surface to become scratched. As a result, in order to protect the data surface it is desirable to store the compact disc in a suitable case.

There are several different types of CD cases currently in use. A first type is a low cost paperboard case that is generally square in shape. The case has a top surface and a bottom surface and is sealed on three of the four sides. The CD is inserted into the open side of the case. Due to the low cost of these CD cases they provide minimal protection and as a result, there is usually nothing to hold the CD in the case. It is not uncommon for the disc in such cases to readily slip out onto a floor or other surface where the disc can become damaged. When CD's are sold in these cases they must have a wrapping, usually a shrink wrapped plastic film to retain the CD disc in the case and to protect the disc from theft.

Another type of CD case that is currently available is the jewel case. The jewel case is a usually made of a clear, hard plastic material such as polycarbonate. The case is generally square and has a top member and a bottom member. The bottom member receives the CD which is held in place by a member that secures the disc in the case. The securing member may for example have a plurality of flexible fingers that releasably secure the CD in the bottom member. The top member may be hingedly

connected to the bottom member. When closed the case has a top and bottom member and four sidewalls.

While the jewel case protects the CD better than the paperboard sleeve type case discussed above, there are problems with the jewel case. First the jewel case is relatively brittle and easily cracked or broken. This is particularly true in the area of the hinges for opening and closing the case. Another problem with the jewel case is the amount of plastic necessary to manufacture the case. In addition, the jewel case has a relatively wide side profile compared to the paperboard sleeve. More paperboard sleeves can be stacked in a given amount of space than jewel cases. As a result of these drawbacks in current CD cases, there is a need for an improved CD case.

Objects of the Invention

It is an object of the present invention to provide an improved CD case that is relatively simple to construct.

It is another object of the invention to provide an improved CD case that can be formed from a single piece of substrate

It is a further object of the invention to provide CD case that will retain the CD in the case without slipping out until needed.

It is a still further object of the invention to provide a CD case that has a retaining means for securing the CD in the case which retaining means can readily

release the CD when desired.

Brief Description of the Drawings

Figure 1 is a top view of the CD case of the present invention.

Figure 2 is a side view of the CD case of the present invention.

Figure 3 is a top view of the blank from which the case of the present invention may be formed.

Figure 4 is a partially assembled view of the CD case of the present invention.

Figure 5 is assembled view of the CD case of the present invention where an exterior surface of the case has been removed.

Detailed Description of the Invention

The CD case 10 of the present invention has a top surface 11 and a bottom surface 12 and three side walls 13, 14, and 15. The top surface 11 may have any desired shape but it is preferably square or rectangular in shape. The bottom surface 12 is typically a mirror image of the top surface 11. Extending from the top surface 11 to the bottom surface 12 are the sidewalls 13, 14, and 15. The sidewalls are preferably generally rectangular in shape having a long edge adjacent to the top and bottom surfaces and a short edge extending from the top surface to the bottom surface.

One side of the case has an opening 16 between the top surface 11 and the bottom surface 12 and the sidewall 13 and sidewall 15 for inserting and removing the CD to be packaged. The shape of the opening 16 is preferably generally a mirror image of the sidewall 14 and preferably has a top portion that extends along the edge of top surface 11 a bottom portion that extends along the edge of bottom surface 12 and a pair of side portions extending from the top portion to the bottom portion along the edges of sidewalls 13 and 15 respectively.

The case preferably has a top surface and a bottom surface that are generally square in shape. Accordingly, side edges 17, 18, 19 and 20 of the top surface are generally at right angles to each other in the preferred embodiment. Similarly, side edges 21, 22, 23, and 24 of the bottom surface are also preferably generally at right angles to each other. In the preferred embodiment, the side walls 13, 14, and 15 are at generally right angles to the top and bottom surfaces of the CD case. The opening 16 extends from sidewall 13 to side wall 15 and from edge 20 to edge 24. As seen in Figure 2, the opening 16 is generally rectangular in shape so that the opening may receive a CD for storage therein.

The preferred arrangement of the case of the present invention where the case is made from a single sheet is shown in Figure 3. The sheet may be made of any suitable substrate such as a plastic material or a paperboard. The material chosen is preferably similar in thickness to the paperboard that is currently in use for CD cases.

As seen in Figure 3 there is a substrate that has an interior first surface 31 and an interior second surface 32. Either the first 31 or the second surface 32 can be the top interior surface of the CD case and vice versa. The exterior first surface 11 and the exterior second surface 12 may, if desired, be provided with any suitable printing. Alternatively, the case may be made from a relatively clear material and the disk may be inserted into a paper sleeve that contains printed information or a brochure may be provided within the case. In another embodiment, the printed material may be present on the disc itself. In still another version, the printing may be on a shrink wrap placed over the case of the present invention.

The first interior surface 31is separated from the second interior surface 32 by side wall 14. Side wall 14 is joined the first interior surface 31 and the second interior surface 32 at score lines 33 and 34. At generally right angles to side wall 13 is a wing 35. At generally right angles to side wall 15 is a wing 36. The wing 35 is separated from sidewall 13 by score line 37. The sidewall 13 is separated from the second interior surface 32 by score line 38. The wing 36 is separated from sidewall 15 by score line 39. The sidewall 15 is separated from the second interior surface 32 by score line 40.

In forming the case of the present invention, the wings35 and 36 are folded inwardly and may be positioned either under the first interior surface 31 or over it. Preferably, the wings will be positioned under the second interior surface. When the wings are folded inwardly, side walls 13 and 15 are preferably at generally right angles

to the second interior surface 32 and the wings 35 and 36 respectively. The wing 35 has a bottom edge 41 a top edge 42 and a pair of side edges 43 and 44. The wing 36 has a bottom edge 45 a top edge 46 and a pair of side edges 47 and 48. Side edge 43 of the first wing 35 is shown as forming an arc 43A with bottom edge 41 and side edge 48 of the second wing 36 is shown as forming an arc 48A with bottom edge 45. This intersection while preferably an arc, need not however have such an arc and the side edge and the bottom edge may form a right angle or some other angle. For example, the "arc" may be a straight line, or a plurality of short straight lines angled that give the appearance of a curved arc. The term arc is also not limited to a portion of a circle but can include an geometric curve or portions thereof such as a portion of an ellipse, parabola, hyperbola, etc. The wings are useful because they provide a surface for sealing the case such as through the use of an adhesive or otherwise. The presence of the arc is also useful because it may aid in retaining the compact disc in the case until it is desired to be removed.

Side wall 14 and the first interior surface 31 are joined by edge 49 and second interior surface 36 and sidewall 14 are joined by edge 50. The first interior surface 31 has side edges 51 and 52 on opposite sides thereof. At generally right angles to side edges 51 and 52 are score lines 49 and 53. On the side of the first interior surface opposite sidewall 14 and adjacent score line 53 is CD retaining means 54. The retaining means extends from the score line 53 and has body portion 55 that has side walls 55A

and 55B as well as a first finger 56 and a second finger 57 that are separated from each other by arc 58. Arc 58 can be almost semicircular in shape. Fingers 56 and 57 have outer edges 59 and 60 and inner edges 61 and 62 respectively. Inner edge 61 and outer edge 59 are joined together at tip 63. Similarly, inner edge 62 and outer edge 60 are joined together at tip 64. The tips 63 and 64 may be any configuration desired. It is preferred that the tips be in the form of semicircles. It will be noted that in order to have a compact disk case that fits together to form a rectangular opening for the CD to be inserted, it is preferred that the distance from sidewall 55A to sidewall 55B be less than the distance from sidewall 51 to the sidewall 52 on the first interior surface 31.

In forming the case of the present invention, the wings 35 and 36 are folded inwardly. As the wings are being folded, the first interior surface 31 is folded towards the second interior surface 32. Fingers 56 and 57 are folded under the wings so that they are between the wings and the second interior surface. An adhesive or other securing means can be placed on the surface of the wings adjacent to the first interior surface.

In use, when the CD is inserted into the case, it is retained in place by the arc 58 and/or the fingers 56 and 57. When the CD is to be removed the sidewalls 13 and 15 and are gently squeezed toward each other causing the first interior surface and the second interior surface to separate from each other. The separation of the first interior surface and the second interior surface causes the fingers and/or the arc to release the

CD and permit it to slide from the case.